Anh Nguyen
12/02/03 07:02 AM

To: NCIC HPV@EPA
cc:
Subject: Environmental Defense comments on Phosphoric Acid, Dibutyl Phenyl Ester (CAS# 2528-36-1)

----- Forwarded by Anh Nguyen/DC/USEPA/US on 12/02/2003 06:59 AM -----

Richard_Denison@environmentaldefense.org on 12/01/2003 05:54:49 PM

To: NCIC OPPT@EPA, ChemRTK HPV@EPA, Rtk Chem@EPA, Karen Boswell/DC/USEPA/US@EPA, dalede@Solutia.com
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Subject: Environmental Defense comments on Phosphoric Acid, Dibutyl Phenyl Ester (CAS# 2528-36-1)

(Submitted via Internet 12/1/03 to oppt.ncic@epa.gov, hpv.chemrtk@epa.gov, boswell.karen@epa.gov, chem.rtk@epa.gov, lucierg@msn.com and dalede@Solutia.com)

Environmental Defense appreciates this opportunity to submit comments on the robust summaries/test plan for Phosphoric Acid, Dibutyl Phenyl Ester (CAS# 2528-36-1).

The test plan and robust summaries for Phosphoric Acid, Dibutyl Phenyl Ester, also known as dibutyl phenyl phosphate (DBPP), were submitted by Solutia, Inc. According to the sponsor DBPP is manufactured solely by Solutia at a single site. It is used along with other unspecified components to produce SKYDROL brand fire-resistant hydraulic fluids. The blending is apparently done at a single site in what is stated to be a closed operation.

Overall, the test plan and robust summaries are informative and well-organized. However, we do have several questions and we do not agree that no new tests are needed. Specifically, we recommend that additional environmental fate and distribution studies be conducted on DBPP and the other components of the mixture in which it is routinely used. Specific comments are as follows:

1. DBPP is really a mixture of 3 organophosphate esters; the other 2 components are Tributyl phosphate (15%) and Butylphenyl Diphenyl Phosphate (15%). The sponsor states that it is the mixture that has been tested for the SIDS endpoints. However, this is not consistently clear in the robust summaries. For example, in cases where endpoints are measured by ECOSAR or EPIWIN, do the data reflect the mixture or DBPP?

2. The environmental fate and distribution data have been estimated by computer models, and in some cases (e.g., hydrolysis) the models were not capable of providing an estimate. We believe that experimental studies should be conducted in cases where the models did not generate an value as well as in cases where estimates were made on only one component of the mixture. Specifically, measured environmental fate and distribution data should be provided on each of the three components of the mixture, as average values for these endpoints may be misleading. Also, the sponsor uses data from other unspecified phosphate esters as a justification that additional environmental fate and distribution studies are not needed.

Unless these data are provided in the robust summaries and justification for their use is provided, their use in this test plan is inappropriate.

3. Data on the ecological toxicity endpoints are derived from both computer models and experimentation, and they demonstrate that DBPP is moderately toxic to fish, algae and aquatic invertebrates. Because of this, the sponsor should consider conducting these tests using individual components of the DBPP mixture.

4. The test plan states that DBPP should not bioaccumulate because it is not very soluble in water and it binds to soil. This justification is entirely insufficient: chemicals like dioxins and PCBs are not water soluble and bind to soil particles, yet they are extraordinarily persistent and they do bioaccumulate.

5. The sections on worker exposure, TLVs and worker safety were clearly presented. However, a TLV was not provided for butylphenyl diphenyl phosphate.

6. The repeat dose studies demonstrate that the DBPP mixture is toxic to the bladder epithelium. Does the sponsor know whether this effect is caused by one of the components of the mixture or whether it is a cumulative effect of all three? In any event, we agree that the mammalian toxicity studies should have been done on the mixture.

7. The sponsor concludes that developmental toxicity studies are not needed to fulfill requirements of the HPV program because of the availability of well-conducted repeat dose and multigeneration studies. We agree with that conclusion.

Thank you for this opportunity to comment.

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